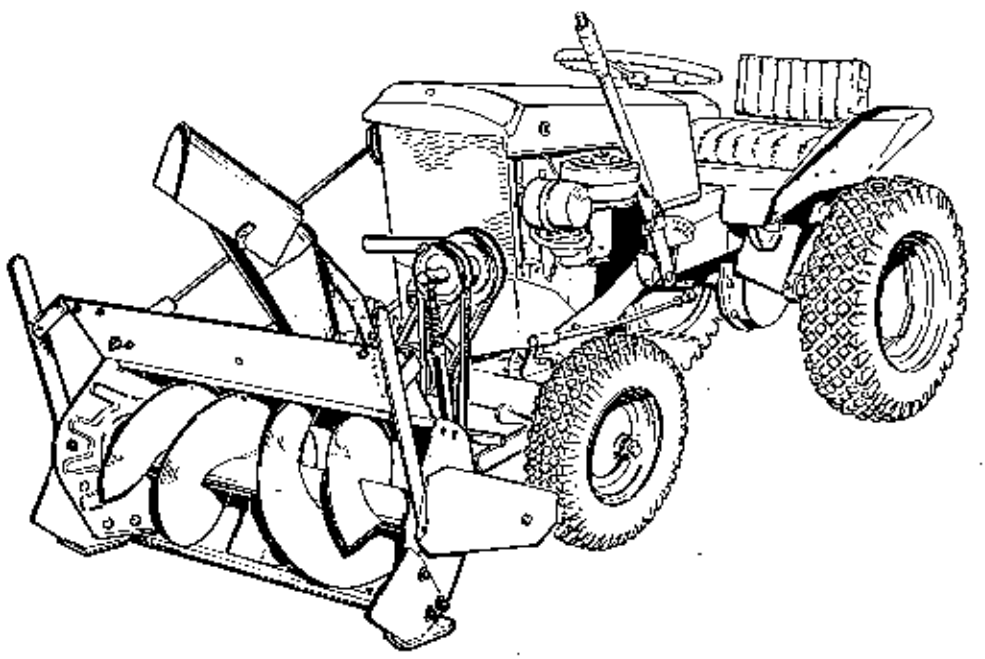
Simplicity®

OWNER'S MANUAL AND PARTS LIST

36" Rotary Snow Thrower

Article 311



SIMPLICITY MANUFACTURING COMPANY

1288

The snow plow is shipped from the factory in 2 cartons. The larger carton contains the rotor housing, skid shoes, drift cutters, spout, "v" belt for spout, and hot air deflector for engine.

The smaller carton contains the drive pulleys and belts, one "v" pulley, "v" belt, push bar assembly, front lift rod, spout adjusting handle, support bracket, pins and hair pin cotters.

To assemble the snow plow, proceed in the following sequence:

1. Assemble the push bar assembly to the rear of the rotor housing using 2 hex cap screws 1/2" - 13 x 2-1/2" lg. and 2 hex nuts 1/2-13 as shown in figure 1.

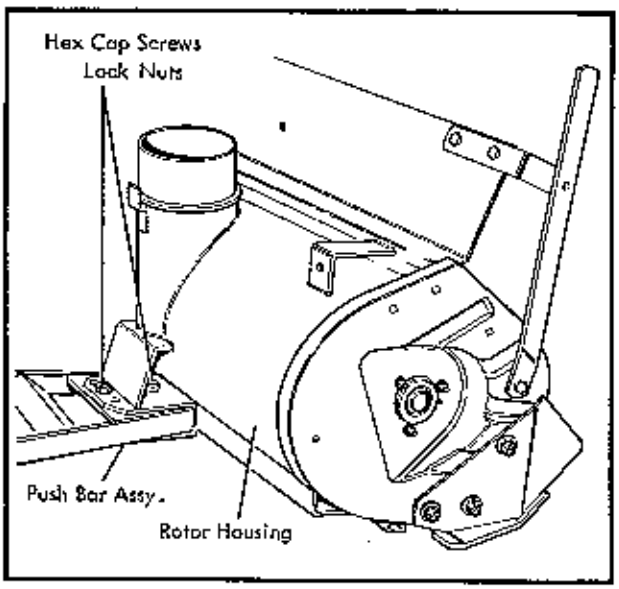


Fig. 1

2. Assemble the skid shoes to each side of the rotor housing as shown in figure 2.

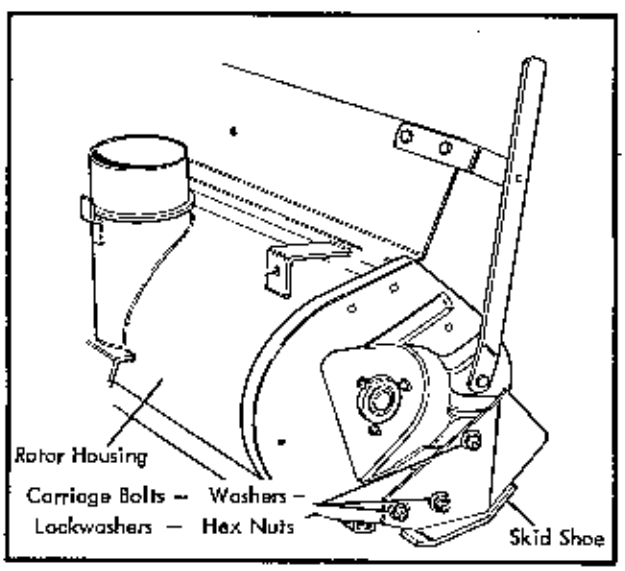


Fig. 2

3. Assemble the drift cutters in place on each side of the rotor housing as shown in figure 3.

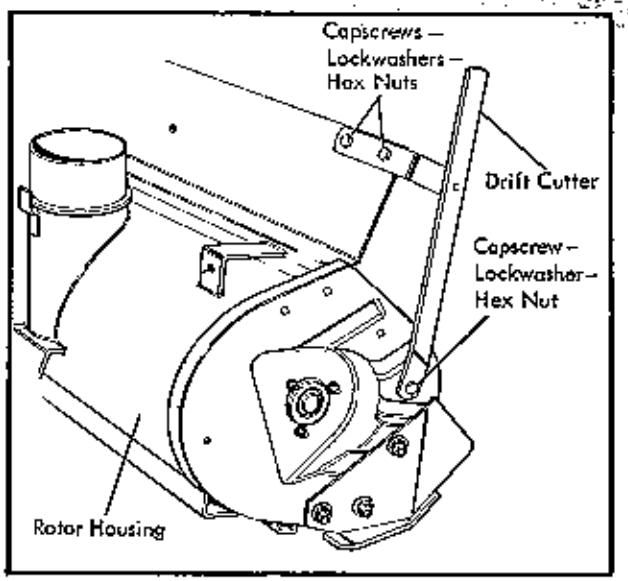


Fig. 3

4. Apply a coating of light oil to the neck of the discharge spout mounting collar, and install the spout #1, Fig. 4, in place on the rotor housing as shown. The application of oil is necessary to prevent rust and to allow the spout to rotate freely.

   Attach the spout control rod bearing #2, Fig. 4, to the rotor housing, using two ¼"-20 x 5/8" lg. hex capscrews, ¼" lockwashers, and ¼"-20 hex nuts. Tighten securely.

   Insert the end of the spout control rod #3, Fig. 4, through the bearing and secure with a cotter pin on both sides of the bearing. The upper end of the spout control rod is fastened to the spout control rod support bracket #4, Fig. 4, using a rod guide #5, Fig. 4, with liner and one 5/16"-18 x 1½" hex capscrew and 5/16"-18 hex lock nut.

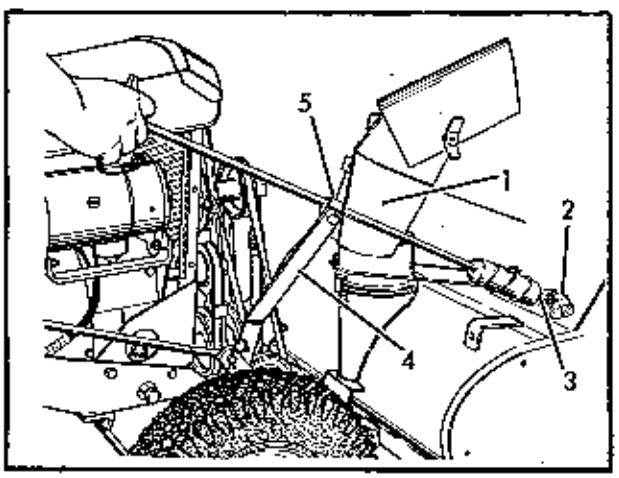


Fig. 4

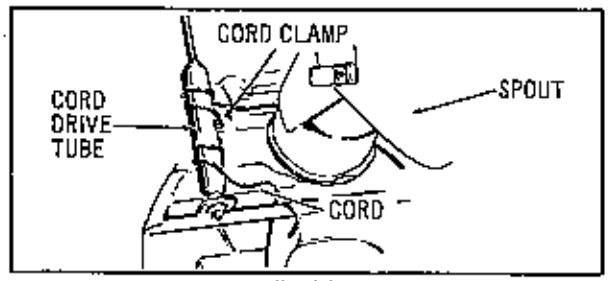


fig. "A"

5. Position the spout to face forward, and turn the cord drive tube so that the cord clamp faces the side of the spout as shown in figure"A". Notice that 2 coils of cord are on both sides of the clamp.

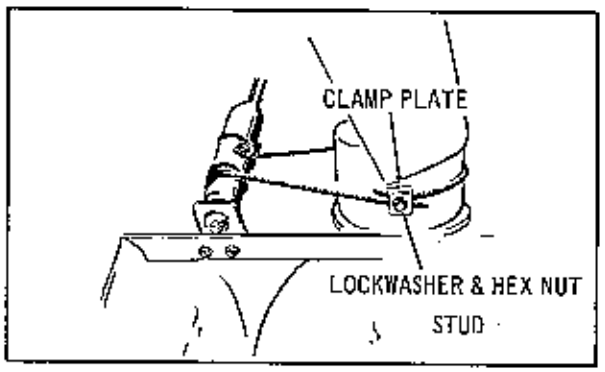


fig. "E"

Position the free ends of the cord around the spout and clamp securely into position after removing all slack from the cord (Fig. E)

6. Connect the drive group to the rotor drive shaft in the following manner:

Two washers are shipped loose in the smaller carton; one washer is thicker than the other and has a larger hole or bore than the thin washer. Assemble the thick washer to the rotor drive shaft and then install the pulley post assembly. Note that when the pulley post assembly is mounted on the drive shaft, the tube or post is angled or inclined toward the center of the plow and not toward the end of the plow. Install the thin washer and the woodruff key to rotor drive shaft. Mount the pulley flush against the washer with hub of pulley to face out or away from pulley post assembly. Tighten set screw and lock pulley in place. See figure 6.

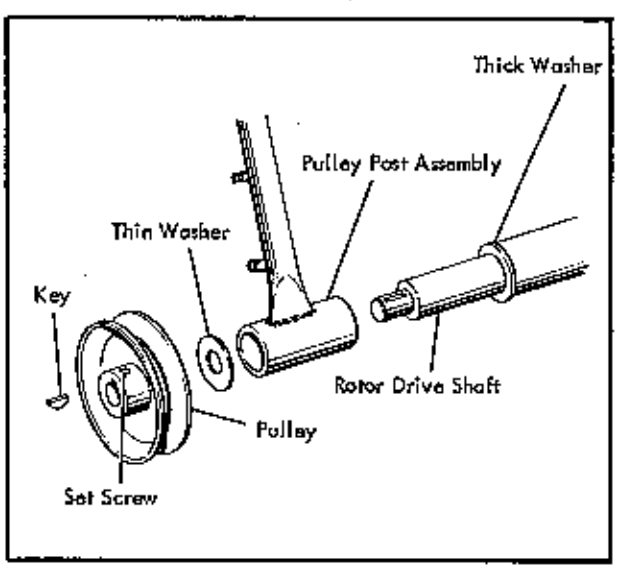


Fig. 6

Place "v" belt "A" in position on upper pulley and insert the stud of the drive group into the pulley post assembly. The stud must be aligned so that the 2 keys (one key on each side of stud) are inserted into the slots on the pulley post. Screw adjusting nut "Y" upwards on the stud until the "v" belt may be placed over the pulley on the rotor drive shaft as shown in figure 7. Screw this nut downward against the spring on the stud until it compresses the spring to a height of 2". This will tension the "v" belt properly. Increasing the tension of "v" belt will only cause premature belt failure!

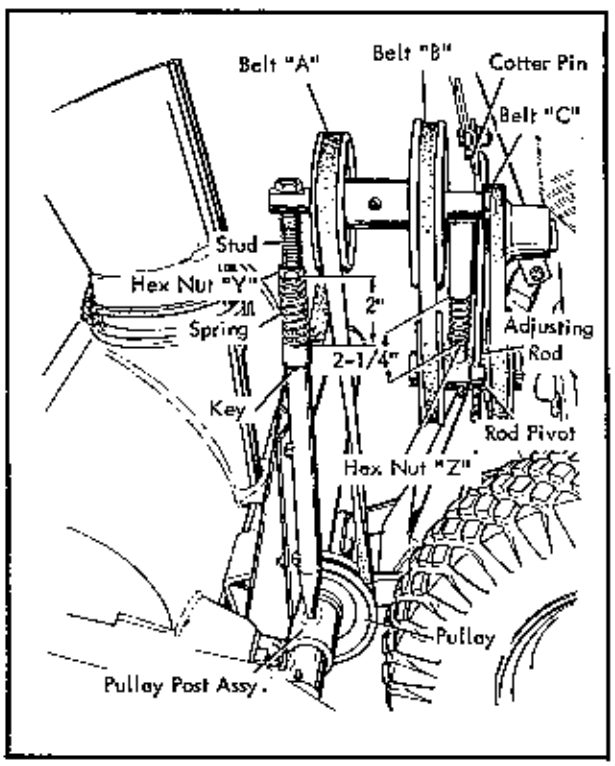


Fig. 7

After connecting the drive group to the rotor drive shaft, inspect the top pulley shaft for proper alignment. This shaft must be perpendicular to the rotor drive shaft.

To adjust the alignment of this shaft, loosen the top lock nut on the stud in the pulley post assembly and reposition the pulley post pivot (directly above the top lock nut). When the alignment of the top pulley shaft is correct, hold the pulley post pivot in position and re-tighten the lock nut.

MOUNTING INSTRUCTIONS

For ease of attachment follow the steps outlined below:

1. The snow plow push bar attaches to the front of the tractor frame by means of 2 pins and 2 hair pin cotters as shown in figure 8. Position the snow plow with the push bar directly under the attaching points on the tractor. Tilt the push bar upward until the vertical projections on the push bar are in place on the tractor frame and insert the pins, and hair pin cotters.

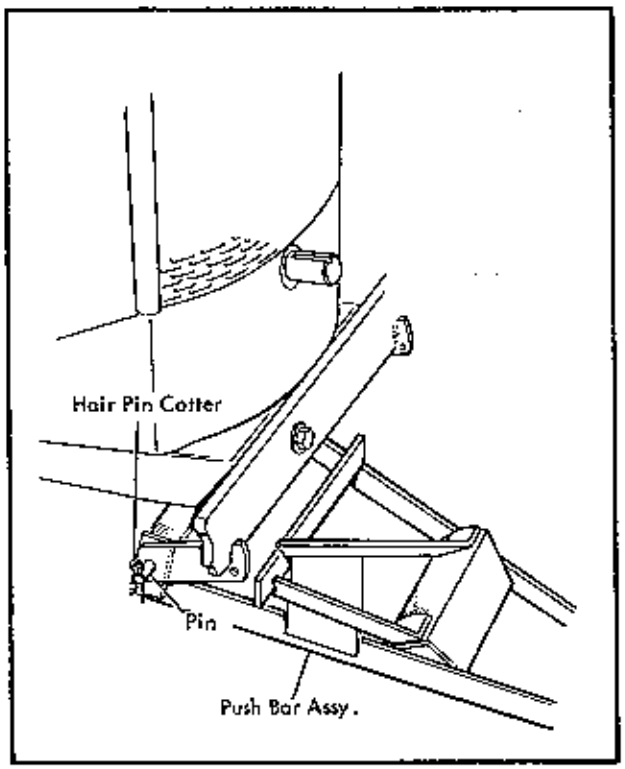


Fig. 8

2. The lift lever quadrant on the side of the tractor contains a series of holes and a pin. Place the pin in the foremost hole of the quadrant and secure in place with hair pin cotter. Release the lift lever and place in a forward position. Attach the yoke end of front lift rod to the lift lever arm using 2nd hole from top, on the right hand side of the tractor, with yoke pin and hair pin cotter. Insert lower end of lift rod into lift arm bracket of push bar and secure with hair pin cotter. The lower end of the front lift rod is to point away from the tractor. See figure 9. At this point when the lift lever is about 1/4" away from the pin in the quadrant, the rotor housing should be in contact with the ground. This will allow the plow to follow the contours of the surface being plowed but the quadrant pin will prevent the lift lever from latching in the forward position if the plow is driven over a curbing.

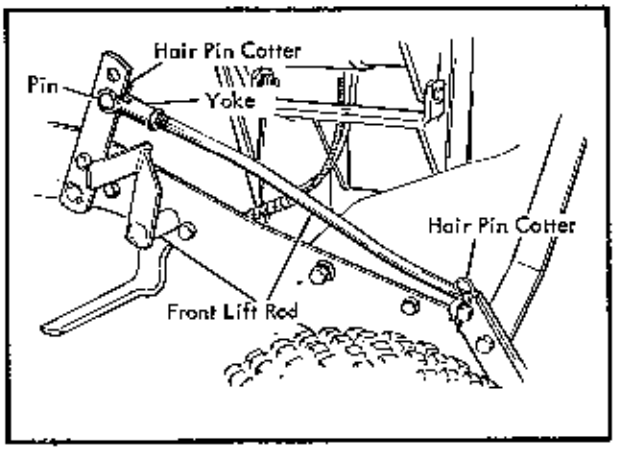


Fig. 9

3. Remove the protective plastic cover from the engine drive shaft and insert a key into the keyway. Apply a coating of grease to the bore of the drive group engine pulley and mount the pulley to the engine drive shaft.

   See figure 10. Tighten the square head set screw securely. For removal of this pulley from engine shaft insert a 3/8" - 16 x 3-1/2 lg. capscrew having at least 2-1/2" of thread length, into the threaded hole "A" of the bearing pin and tighten screw until pulley is loose from shaft.

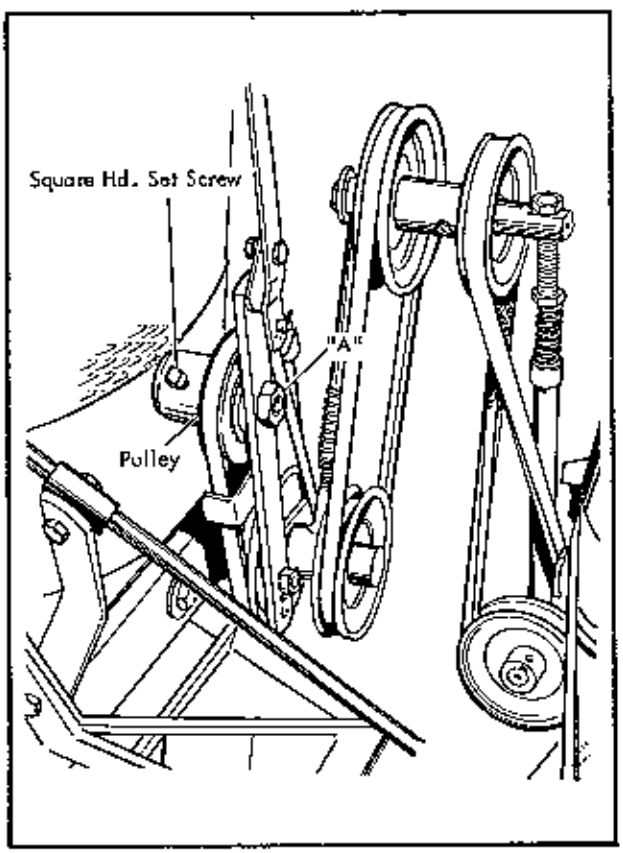


Fig. 10

After connecting the drive group to the tractor engine and the rotor drive shaft, inspect the top pulley shaft for proper alignment. This shaft must be parallel with the engine drive shaft, and perpendicular to the rotor drive shaft.

To adjust the alignment of this shaft, loosen the top lock nut on the stud in the pulley post assembly and reposition the pulley post pivot (directly above the top lock nut). When the alignment of the top pulley shaft is correct, hold the pulley post pivot in position and retighten the lock nut.

4. Remove 2 head bolts from front edge of engine cylinder head. Install heat deflector in place so that cut out portion of deflector fits in back of muffler. Replace head bolts and tighten securely. This deflector is provided for winter use only and must be removed in warm weather to prevent overheating and damaging engine. The deflector directs a flow of warm air around the carburetor and allows for more efficient winter operation of the tractor engine.

5. To counter balance the weight of the snow plow, weights are available for mounting to the rear lift assembly. When these weights are in place, they provide sufficient counterbalancing to allow the plow to be raised or lowered with ease. See figure 11.

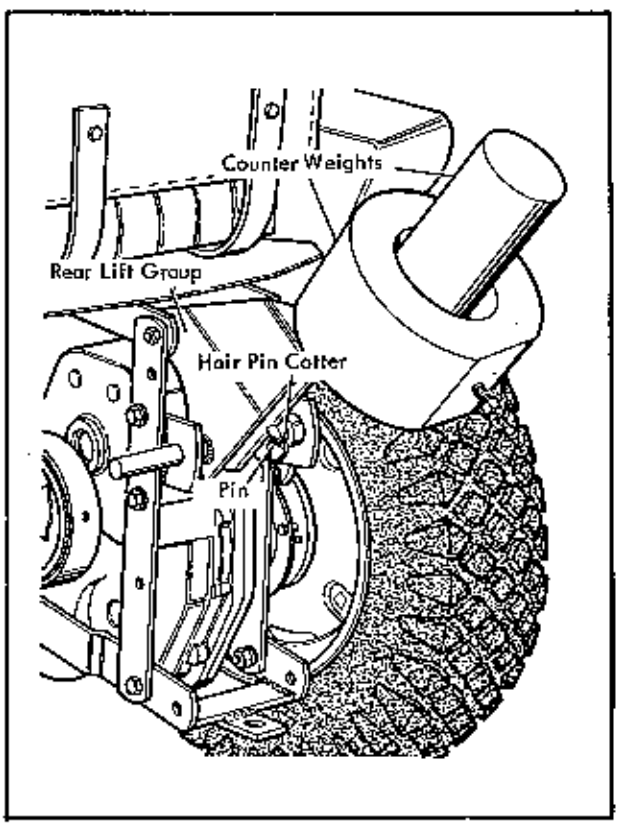


Fig. 11

BELT REPLACEMENT

When it becomes desirable or necessary to replace the "v" belts "A", "B", loosen the lock nuts "Y" and "Z". This will release the tension on the belts "A" and "B" and allow removal and replacement. To properly tension belt "A", tighten lock nut "Y" until the tension spring is compressed to a height of 2". To properly tension belt "B", tighten lock nut "Z" until the tension spring is compressed to a height of 2-1/4". See figure 6.

To increase tension on belt "C", remove cotter pin from upper end of adjusting rod when clutch is disengaged. See figure 6. When rod is free from clutch lever, screw the rod outward from the adjusting rod pivot. This in effect lengthens the rod and will add tension to belt when rod is assembled to clutch lever. Belt tension in excess of that required to drive the snow plow will only result in premature belt failure.

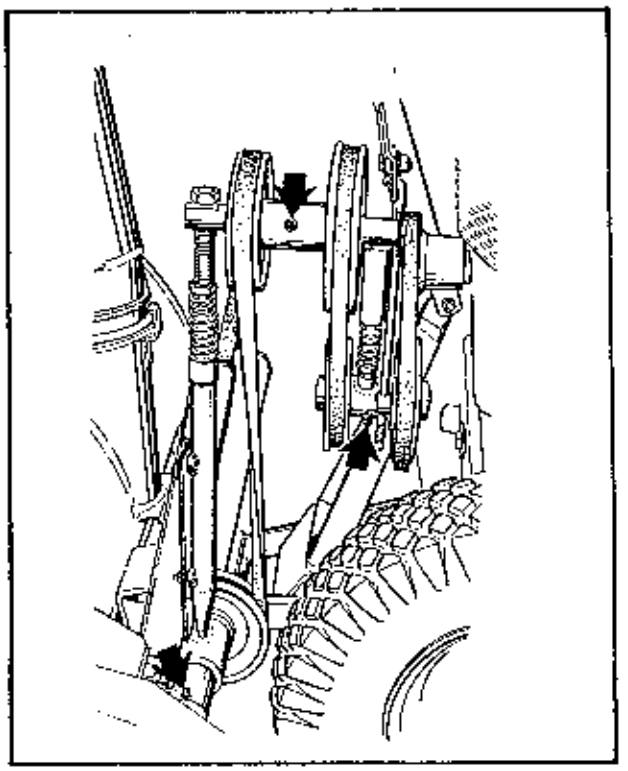


Fig. 12

OPERATION

Operation of the rotor is controlled by the position of the clutch lever. See figure 13. To operate the rotor, place the clutch lever in the horizontal disengaged position, and start the tractor engine. Lift the lever into the vertical engaged position and the rotor will operate as long as the tractor engine is running. Bear in mind that the rotor will be revolving as long as the clutch is engaged and the engine is running. Exercise caution at all times and never attempt to remove snow or ice from the rotor housing or discharge chute unless clutch is disengaged and tractor engine is stopped.

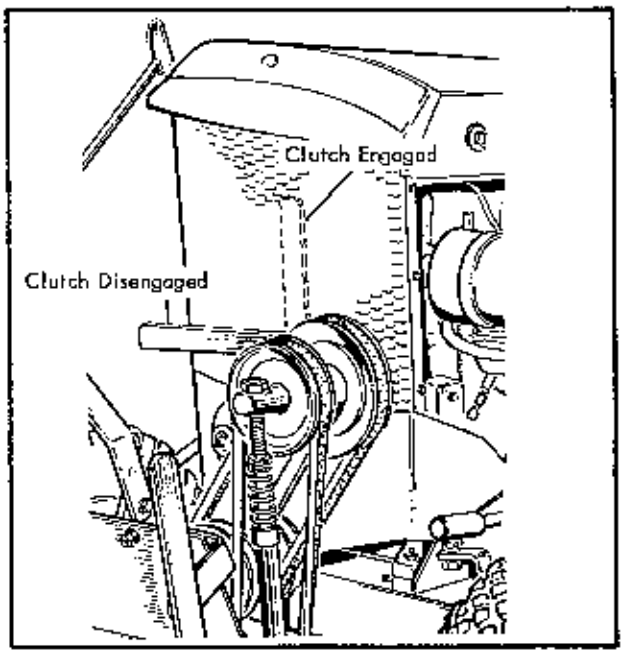


Fig. 13

The skid shoes on each side of the rotor housing are adjustable either up or down to suit the surface over which the plow is to be operated. For a smooth surface, loosen the nuts and set the shoes so that the lower edge of the rotor housing rides on the surface. For use over an uneven or rough surface, adjust the shoes for maximum lift.

When using the plow set the discharge spout so that the snow will be thrown with the wind and never into the wind. Throwing snow into the wind is apt to be a source of discomfort to the operator. To alter the direction of discharge, rotate the spout by means of the adjusting handle. The angle of discharge may be altered by loosening the wing nut on the discharge spout extension adjusting rod and moving the extension to the desired position. Retighten the nut.

When operating the plow through excessively heavy drifts of snow, pull back on lift lever and raise plow while taking the first pass through the drift. Then back off and lower the plow and go through again. After the first path through the drift has been opened, it may be convenient to use only a portion of the width of the plow on succeeding passes. Naturally, efficient plowing methods will vary from one snowfall to another and from location to location and the operator must judge for himself which methods produce the best results.

The wheel weights and tire chains will offer increased traction under rugged snow condition and are available from your Simplicity dealer.

When transporting the plow from one location to another, disengage rotor clutch lever and pull lift lever back to latched position and carry plow in raised position.

When possible, it will be best to store the snow plow in a cold area so that snow will not melt on snow plow and cause formation of ice.

A belt guard is provided for the protection of the rotor drive belt when using the plow during windy weather. This guard aids in preventing the accumulation of ice and snow on the rotor drive belt. Refer to exploded-view of the drive group, shown on page 10, for the proper location and position of this guard. (See item "BL").

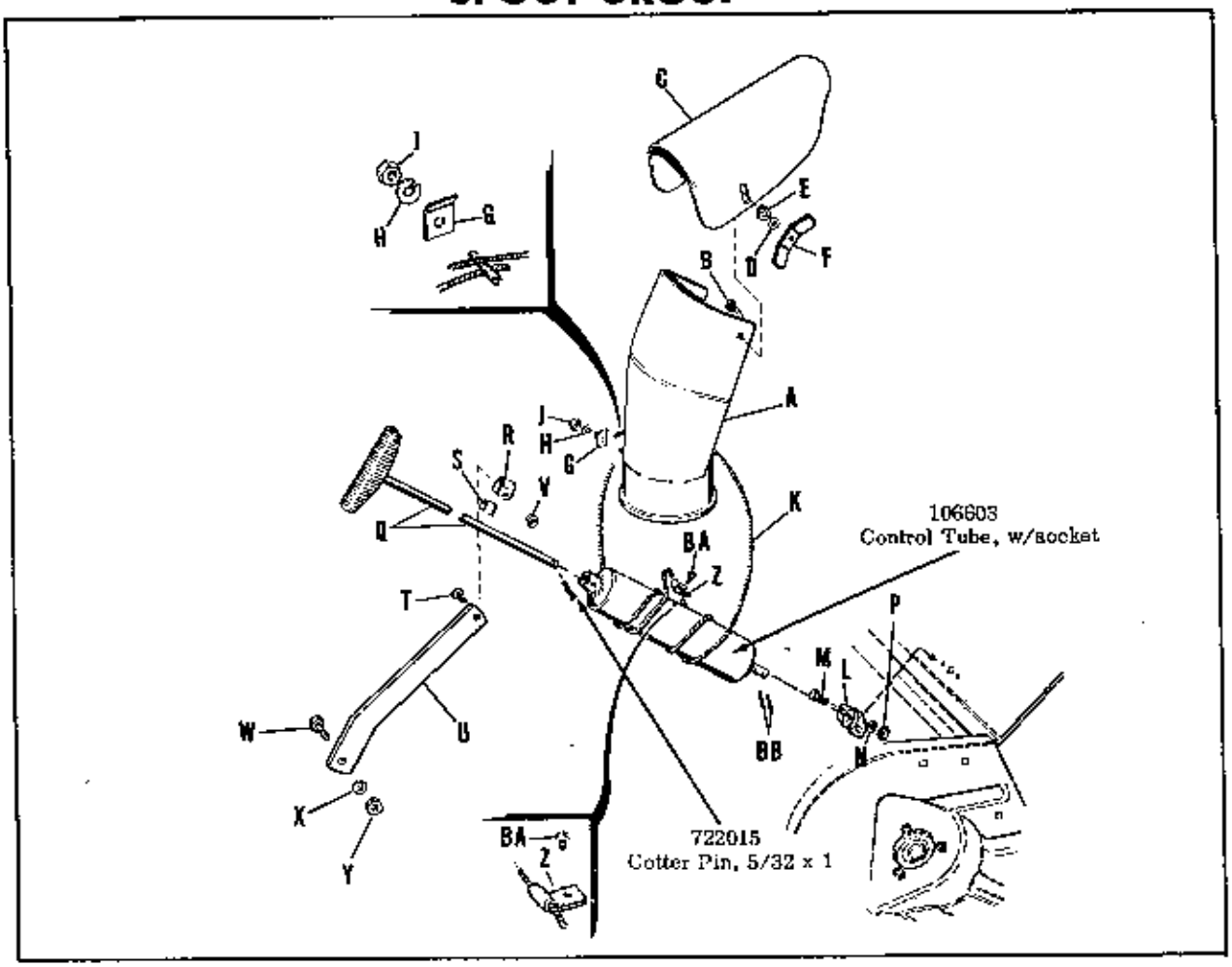
CAUTION: It is the operators obligation to avoid foreign material or obstructions in snow. Bear in mind that pieces of pipe, rocks, lumber, or rags may jam the rotor and damage it or the drive belts. Be prepared to disengage the rotor clutch quickly if this should happen. If rotor should jam on alien material, be sure to shut off tractor engine before attempting to remove obstruction.

Lubrication

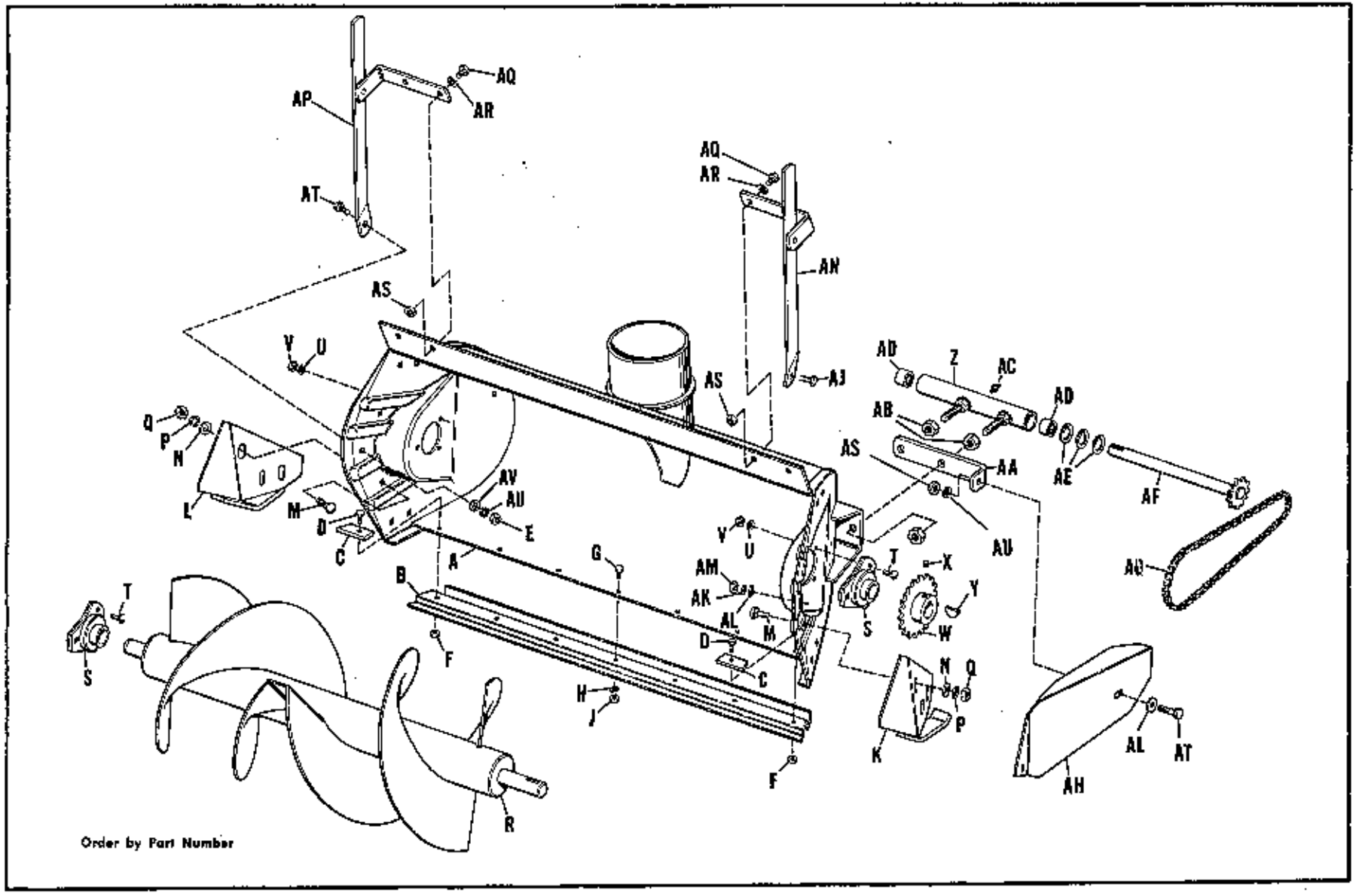
The snow plow has 3 grease fittings which require occasional lubrication with general purpose automotive grease. The location of these fittings is shown in figure 12.

The bearings on the rotor shaft are of a sealed type and do not require further lubrication. The occasional application of a light motor oil to the ends of the rotor shaft will aid in prolonging the life of the bearing seals.

SPOUT GROUP



Ref. Letter	Part No.	Description
A	106338	Spout Assembly
B	703005	Carriage Bolt, 5/16"-18 x 3/4" lg.
C	106489	Spout Extension
D	719001	Plain Washer, 3/8"
E	721601	Lock Washer, Special, Hexagon, 3/8"
F	106229	Wing Nut
G	121042	Plate
H	720001	Lock Washer, 5/16"
J	717001	Hex Nut, Full, 5/16"-18
K	106592	Spout Cord
L	106491	Bearing
M	705015	Hex Capscrew, 1/4"-20 x 5/8" lg.
N	720003	Lock Washer, 1/4"
P	717005	Hex Nut, Full, 1/4"-20
Q	106606	Spout Control Tube Assembly
R	152050	Rod Guide
S	121175	Guide Liner
T	705019	Hex Capscrew, 5/16-18 x 1¼ lg.
U	106135	Rod Guide Support
V	717511	Hex Lock Nut, Full, 5/16"-18
W	705016	Hex Capscrew, 3/8"-16 x 1-1/4" lg.
X	720002	Lockwasher, 3/8"
Y	717003	Hex Nut, 3/8"-16
Z	154247	Clamp
BA	714007	Self-Tapping Screw, 1/4"-20 x 3/8" lg.
BB	722009	Cotter Pin, 1/8" x 3/4" lg.



BODY & ROTOR GROUP

BODY & ROTOR GROUP

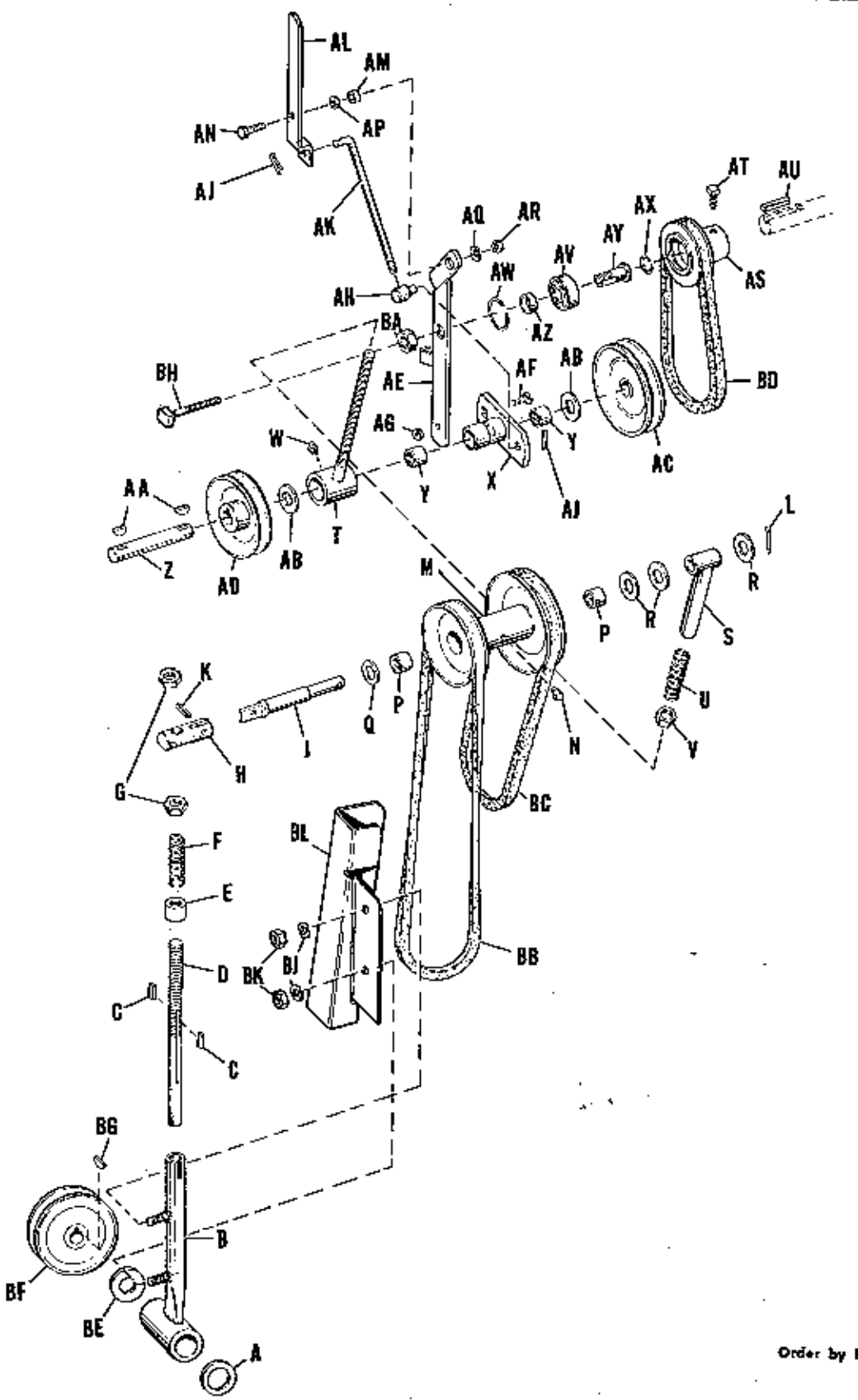
Order by Part Number

Reference Letter	Part No.	Description
A	106593	Body Assembly
B	106438	Scraper, Body
C	106137	Clamp, Scraper
D	715020	Capscrew, Hex Hd., 5/16"-18 NC x 3/4" lg.
E	717001	Nut, Hex, Full, 5/16"-18 NC
F	717511	Nut, Hex, Full, 5/16"-18 NC
G	715018	Capscrew, Hex Hd., 1/4"-20 NC x 1/2" lg.
H	720003	Washer, Lock, 1/4"
J	717005	Nut, Hex, Full, 1/4"-20 NC
K	106610	Shoe Assembly, Left Hand
L	106611	Shoe Assembly, Right Hand
M	703004	Bolt, Carriage, 3/8"-16 NC x 3/4" lg.
N	719001	Washer, Plain, 3/8"
P	720002	Washer, Lock, 3/8"
Q	717003	Nut, Hex, Full, 3/8"-16 NC
R	106047	Rotor Assembly
S	106532	Bearing, Ball
T	705017	Capscrew, 5/16"-18 NC x 3/4" lg.
U	720001	Washer, Lock, 5/16"
V	717001	Nut, Hex, Full, 5/16"-18 NC
W	106052	Sprocket, Rotor
X	713503	Set Screw, Cup Point, Hex Socket, 5/16"-18 NC x 5/16" lg.
Y	151040	Key, "Hi-Pro"
Z	106053	Housing Assembly, Bearing
AA	106104	Bracket, Chain Guard
AB	717006	Nut, Hex, Full, 1/2"-13 NC
AC	727002	Fitting, Grease
AD	154258	Bearing, Needle
AE	8061012	Washer
AF	106055	Shaft Assembly
AG	106058	Chain, Rotor
AH	106103	Guard, Chain
AJ	705017	Capscrew, Hex Hd., 5/16"-18 NC x 3/4" lg.
AK	720001	Washer, Lock, 5/16"
AL	719002	Washer, Plain, 5/16"
AM	717001	Nut, Hex, Full, 5/16"-18 NC
AN	106146	Cutter Assembly, Drift, Left Hand
AP	106149	Cutter Assembly, Drift, Right Hand
AQ	705017	Capscrew, Hex Hd., 5/16"-18 NC x 5/8" lg.
AR	720001	Washer, Lock, 5/16"
AS	717001	Nut, Hex, Full, 5/16"-18 NC
AT	705017	Capscrew, Hex Hd., 5/16"-18 NC x 3/4" lg.
AU	720001	Washer, Lock, 5/16"
AV	719002	Washer, Plain, 5/16"

GUARANTEE

The Company guarantees Simplicity Products to be free from defects in material and workmanship. Any part proven defective within one year, under normal use, from date of purchase, (except tires, engines and engine accessories which, usually are warranted by their respective manufacturers), will be replaced free of charge, f.o.b. Port Washington, Wisconsin, provided such part is returned to factory transportation charges prepaid, and if upon examination at the factory found to be defective. The Company is not obligated under this guarantee to bear cost of labor or delivery charges in replacement of defective parts. This guarantee does not apply to any Simplicity Products altered outside of Simplicity's factory.

DRIVE GROUP



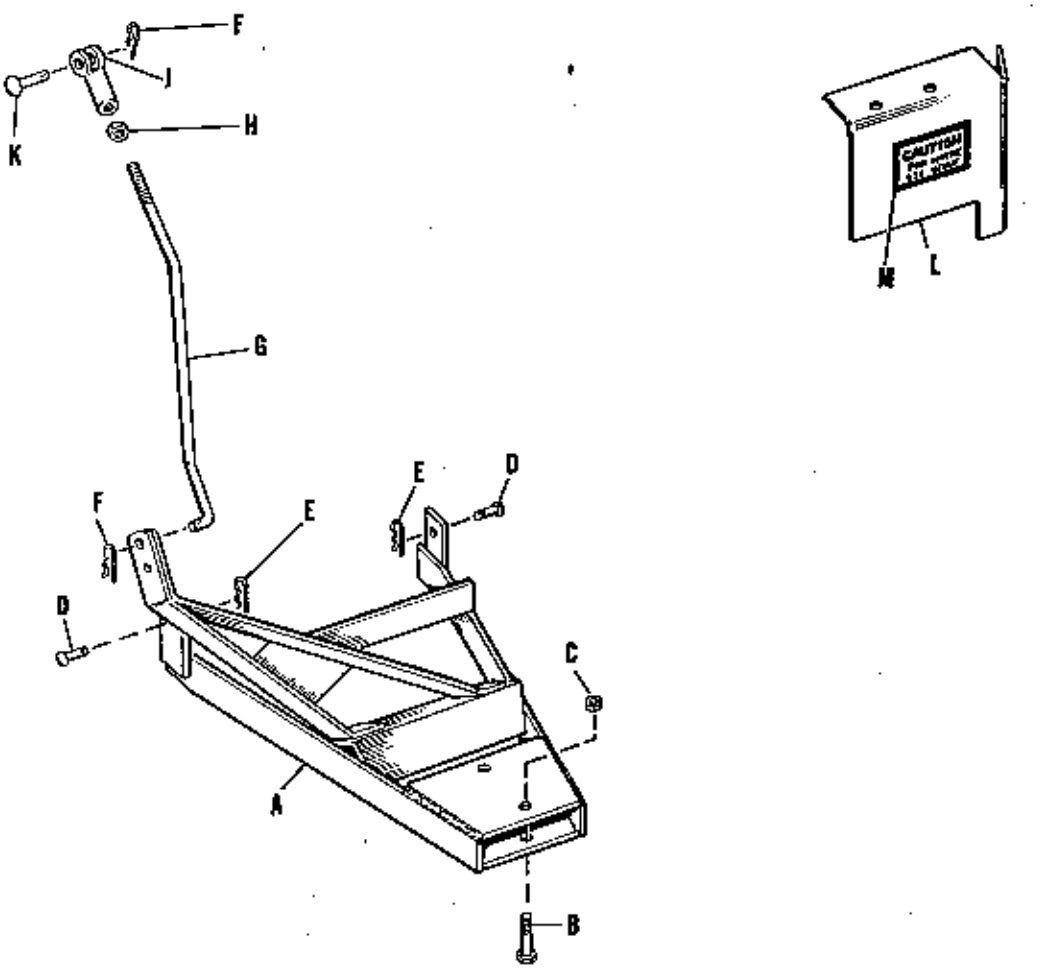
Order by Part Number

DRIVE GROUP

Order by Part Number

Reference Letter	Part No.	Description
A	106059	Washer
B	106448	Post Assy., Pulley
C	8101046	Key
D	106139	Stud
E	106138	Cap
F	106064	Spring
G	717018	Nut, Hex, Jam, 5/8" - 11 N. C.
H	106122	Pivot, Pulley Post
J	106116	Shaft, Pulley
K	723009	Pin, Roll, 5/16" x 1" lg.
L	722003	Pin, Cotter 3/16" x 1-1/4" lg.
M	106068	Pulley Assy.
N	727001	Fitting, Grease
P	154258	Bearing, Needle
Q	106069	Washer
R	119018	Washer
S	106111	Post Assy., Pulley
T	106113	Screw Assy., Belt Tension
U	106064	Spring
V	717018	Nut, Hex, Jam, 5/8" - 11 N. C.
W	727001	Fitting, Grease
X	106078	Flange Assy.
Y	154258	Bearing, Needle
Z	106081	Shaft
AA	725003	Key, Woodruff
AB	8141003	Washer
AC	154308	Pulley
AD	106057	Pulley
AE	106117	Arm Assy., Pulley
AF	703002	Bolt, Carriage, 3/8" - 16 N. C. x 1 1/4" lg.
AG	717504	Nut, Hex, Full Lock, 3/8" - 16 N. C., Elastic Stop Nut
AH	106109	Pivot, Adj. Rod
AJ	722016	Pin, Cotter, 3/32" x 5/8" lg.
AK	106110	Rod, Adj.
AL	106121	Lever, Belt Release
AM	153081	Spacer
AN	705005	Screw, Hex Hd. Cap, 3/8" - 16 N. C. x 1" lg.
AP	719002	Washer, Plain, 5/16"
AQ	720002	Washer, Lock, 3/8"
AR	717003	Nut, Hex, Full, 3/8" - 16 N. C.
AS	106090	Pulley, Engine
AT	713006	Screw, Sq. Hd., Cup Point, Set, 5/16" - 18 N. C. x 1/2"lg.
AU	159129	Key
AV	108202	Bearing, Ball
AW	118094	Ring, Retaining
AX	106093	Ring, Retaining
AY	106094	Pin, Bearing
AZ	106092	Spacer
BA	717517	Nut, Hex, Jam, Lock, 3/4" - 16 N. F.
BB	152017	Belt, "V"
BC	121078	Belt, "V"
BD	106123	Belt, "V"
BE	8141003	Washer
BF	106057	Pulley
BG	725003	Key, Woodruff
BH	716002	Capscrew, 3/8-16 N. C. x 3-1/2" lg., minimum thread length 2-1/2"
BJ	720002	Washer, Lock, 3/8"
BK	717003	Nut, Hex, Full, 3/8"-16 NC
BL	106447	Guard, Belt

PUSH BAR GROUP



Order by Part Number

Order by Part Number

Reference Letter	Part No.	Description
A	106096	Bar Assembly, Push
B	705048	Capscrew, Hex Hd., 1/2" - 13 N. C. x 2-1/2" lg.
C	717518	Nut, Hex, Full, Lock, 1/2" - 13 N. C.
D	118053	Pin
E	8161045	Clip, Spring
F	8161045	Clip, Spring
G	106178	Rod, Front Lift
H	717008	Nut, Full, Hex, 1/4" - 20 N. F.
J	154304	Yoke End, Adjusting
K	154305	Pin, Yoke
L	106172	Deflector, Hot Air
M	106173	Decal, "Caution"